

# LONG-TERM, HIGH ACCURACY TIDE AND WAVE LOGGER



LOW DRIFT QUARTZ  
BASED PRESSURE  
SENSOR

The RBRquartz<sup>3</sup> Q|plus tide and wave logger integrates the proven Paroscientific Digiquartz<sup>®</sup> pressure sensor for the best-in-class initial accuracy and low drift performance. Intended for long-term autonomous or realtime observations of water level, tides and waves, the incredibly stable pressure sensor in the RBRquartz<sup>3</sup> Q|plus can resolve small changes over long deployments. Flexible measurement schedules, burst sampling, and configurable integration times permit applications for tide, wave, and sea level measurements. The RBRquartz<sup>3</sup> Q|plus has a large battery and memory capacity for extended autonomous deployments and USB, RS-232, or RS-485 connectivity for realtime applications.

## FEATURES

 Long deployments	 Quartz stability	 240M readings	 Up to 16Hz sampling rate	 USB-C download	 High accuracy
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The RBRquartz<sup>3</sup> Q|plus can record instantaneous pressure measurements, average pressure samples to remove wave action, and burst-sample pressure at up to 16Hz for wave height and period calculations. Wave measurements are made by burst sampling, with programmable sample rate, number of samples, and burst interval. High accuracy marine temperature data are recorded with each measurement. Wave, tide, and temperature measurements are standard with every RBRquartz<sup>3</sup> Q|plus.

The RBRquartz<sup>3</sup> Q|plus pressure logger is ideal for applications such as long-term wave, tide, and sea level measurements, high accuracy depth sensing in ROVs and AUVs, and offshore critical engineering projects. Realtime data applications are enabled via USB, RS-232, or RS-485 communications. Data transmission to a surface buoy can be performed inexpensively and reliably using the RBR MLM inductive modem system. Innovative canister design allows for easy access to the battery compartment and fast data download via USB-C. Dataset export to Excel, OceanDataView<sup>®</sup>, or text files makes post processing with your own algorithms effortless.

## LONG-TERM, HIGH ACCURACY TIDE AND WAVE LOGGER LOW DRIFT QUARTZ BASED PRESSURE SENSOR

### Specifications

#### Physical

Storage:	240M readings
Power:	24 D cells
External power:	4.5-30 VDC
Communication:	USB-C or RS-232/485
Clock drift:	±60 seconds/year
Depth rating:	260m
Housing:	Plastic
Size:	~562.5mm x Ø140mm
Weight:	~11.7kg in air (with batteries) ~2.8kg in water (with batteries)

#### Marine temperature (standard)

Range:	-5 to 35°C
Accuracy:	±0.002°C
Time constant:	30s (embedded)
Typical stability:	±0.002°C/year

#### Depth

Range:	10 / 20 / 55 / 125 / 190 / 260 dbar (nominal)
Initial accuracy:	±0.01% FS (full scale)
Resolution:	100ppb (at 16Hz sampling rate)

### Deployment Estimates

With lithium thionyl chloride (LTC) cells

Speed	Burst samples	Interval	Time	# samples
16Hz	-	Continuous	64 days	88M
4Hz	4096	120 min	4.9 years	88M
1s	-	Continuous	2.7 years	88M
1s	512	30 min	9.8 years	88M
1s	512	60 min	10+ years	88M



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